

-continued

<220> FEATURE:

<223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic oligonucleotide

<400> SEQUENCE: 22

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34

1. A prenatal method for one or more of: promoting health, maintaining gut homeostasis, treating disease, or preventing a disease, conferring prenatal immunity, each suitably treated by the formation or enhancement of a biofilm in a fetus, the method comprising prenatal administration to a pregnant female carrying the fetus an effective amount of a microsphere comprising a biofilm-generating probiotic bacterium and a prebiotic, wherein the prebiotic comprises a nutritional supplementation for the probiotic bacterium.

2. The method of claim 1, wherein the microsphere further comprises a partial or complete biofilm coating on the external surface of the microsphere.

3. (canceled)

4. The method of claim 1, wherein the microsphere further comprises one or more of: a prebiofilmic, a therapeutic drug or agent, a chemical reductant, a molecule that promotes adsorption, a molecule that supports absorption.

5.-8. (canceled)

9. The method of claim 1, wherein the probiotic bacterium is one or more of *L. acidophilus*, *L. crispatus*, *L. gasseri*, group *L. delbrueckii*, *L. salivarius*, *L. casei*, *L. paracasei*, *L. plantarum*, *L. rhamnosus*, *L. reuteri*, *L. brevis*, *L. buchneri*, *L. fermentum*, *L. rhamnosus*, *B. adolescentis*, *B. angulation*, *B. bifidum*, *B. breve*, *B. catenulatum*, *B. infantis*, *B. lactis*, *B. longum*, *B. pseudocatenulatum*, *S. thermophiles*, *Pseudomonas fluorescens*, *P. protegens*, *P. brassicacearum*, *P. aeruginosa*; *Azospirillum. brasiliense*, *A. lipferum*, *A. halopraeferens*, *A. irakense*; *Acetobacter diazotrophicus*; *Herbaspirillum seropedicae*; *Bacillus subtilis*, *Pseudomonas stutzeri*, *fluorescens*, *P. putida*, *P. cepacian*, *P. vesicularis*, *P. paucimobilis*; *Bacillus cereus*, *B. thuringiensis*, *B. sphaericus*; *Shewanella oneidensis*; *Geobacter bemidjensis*, *G. metallireducens*, *G. sulfurireducens*, *G. uraniireducens*, *G. lovleyi*; *Serratia marcescens*, *Desulfovibrio vulgaris*, *D. desulfuricans*, *Dechloromonas aromatic*, *Deinococcus radiodurans*, *Methylibium petroleiphilum*, *Alcanivorax borkumensis*, *Archaeoglobus fulgidus*, *Haloferax* sp., *Halobacterium* sp., and combinations thereof.

10.-13. (canceled)

14. The method of claim 1, wherein the method further comprises administration of an agent, wherein the agent is selective against a pathogen.

15. The method of claim 1, wherein the microsphere further comprises a complimentary agent coated on the

surface of the microsphere and/or encapsulated within a hollow core of the microsphere.

16.-20. (canceled)

21. The method of claim 1, wherein the probiotic bacteria comprises *L. reuteri* and the prebiotic comprises glycerol or histadine.

22.-30. (canceled)

31. A prenatal method of administering a probiotic to a fetus comprising:

administering to a pregnant female carrying the fetus an effective amount of a microsphere comprising a biofilm-generating probiotic bacterium and a prebiotic, wherein the prebiotic comprises a nutritional supplementation for the probiotic bacterium.

32. The method of claim 31, wherein the composition is administered to provide from about 1×10^7 to about 1×10^9 CFU/ml of the biofilm-generating probiotic bacterium.

33. The method of claim 31, wherein the composition is administered at about 6, 12, 18, 24, 36, 48, and 72 hours.

34. (canceled)

35. A prenatal method of conferring NEC resistance or immunity to a fetus, the method comprising administering to a pregnant female carrying the fetus an effective amount of a microsphere comprising a biofilm-generating probiotic bacterium and a prebiotic, wherein the prebiotic comprises a nutritional supplementation for the probiotic bacterium.

36. The method of claim 31, wherein the microsphere further comprises a partial or complete biofilm coating on the external surface of the microsphere.

37.-41. (canceled)

42. The method of claim 35, wherein the biofilm-generating probiotic is *L. reuteri*.

43.-50. (canceled)

51. The method of claim 31, further comprising a complimentary agent coated on the surface of the microsphere and/or encapsulated within a hollow core of the microsphere.

52.-57. (canceled)

58. The method of claim 31, wherein the probiotic bacteria comprises *L. reuteri* that produces glucosyltransferase (GFT).

59.-60. (canceled)

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